



State of Idaho

DEPARTMENT OF WATER RESOURCES

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C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

October 6, 2016

Memo to the File: Repair of the Mitchell Sorensen Well

On Friday, September 29, 2017 I witnessed the repair of the Mitchell Sorensen well located in Township 5 North, Range 26 East, Section 21 NE^{1/4} NE^{1/4}.

Vollmer Well Drilling designed and fabricated an air lift vacuum that could be inserted between the production string and surface string of casing to remove the crushed limestone aggregate between the two strings of casing. Using 900 cubic feet of air per minute and a 2.5 inch ID drop pipe the calculated up hole velocity is 1384 fps allowing the crushed limestone aggregate to be removed. The measured depth was forty two feet.

One and a quarter yards of 3/8 bentonite chips were placed between the surface casing from forty two feet up to a depth of two feet below the top of the surface casing. The top of the bentonite was hydrated with three gallons of water to prevent shocking the cement plug when it was placed. Four bags of cement were mixed with 24 gallons of water and this was placed in the remaining two feet of open hole.

Photograph 1 shows the air jet in operation. Note the gravel exiting the pipe.

Photograph 2 shows the first yard of bentonite to be placed as a seal.

Photograph 3 shows the cement cap between the two strings of casing.

Due to the construction of this well it not be possible to modify it in the future. If it does not produce the amount of water desired it will have to be decommissioned.

Dennis M. Dunn
Sr. Water Resource Agent



Photo 1

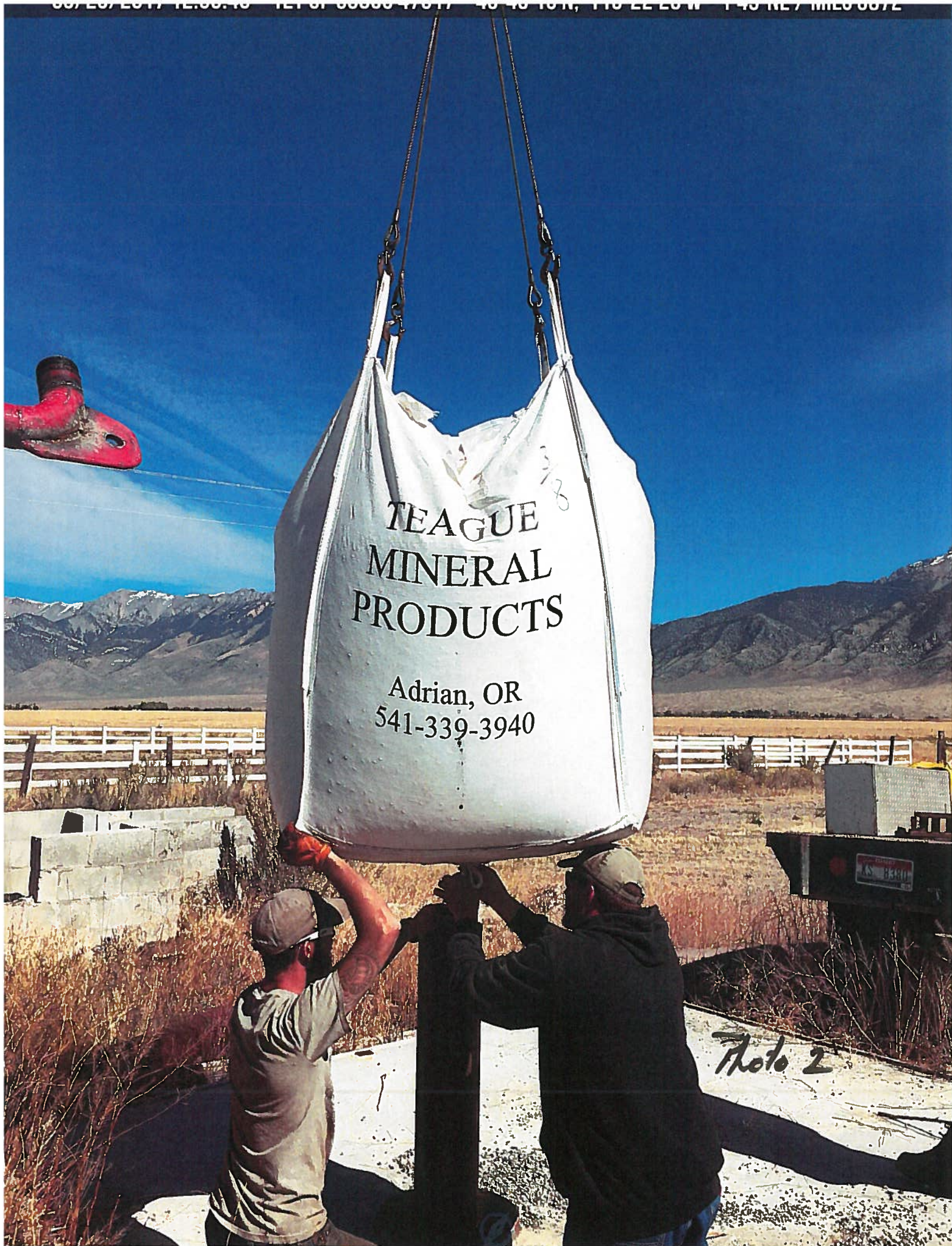


Photo 2



Photo 3